MAY'14 ISSUE

PARTICLE POST

COLLIDER-ACCELERATOR DEPARTMENT

Contact: C. Scholl

PREVIOUS ISSUES

April 2014 GO

A WORD FROM THE:

Administration

Accelerator Div.

ES&F Div.

Acc. R&D Div.

Operations

Arrivals/Departures

Safety Stats

Quote of the Month: "Your theory is crazy, but it's not crazy enough to be true." - Niels Bohr

NOTE FROM OUR CHAIR: Thomas Roser

The performance of RHIC this year is fantastic. The integrated luminosity for the gold-gold run is exceeding the maximum projections by 50%. The record performance is due to the fully 3-D stochastic cooling in both rings, but also due to the high operating reliability of all systems.

If the performance continues for another month at this level we might add a physics run of asymmetric collisions of helium-3 on gold. This would give us an early start on next year's RHIC physics program of asymmetric collisions. The main asymmetric mode next year will be proton on gold collisions. This will be the first time RHIC will collide protons on gold even though this collider mode was an important part of the design of RHIC. To have enough beam aperture for this highly asymmetric configuration the DX magnets at the STAR and PHENIX interaction point will have to be moved horizontally. The move of the superconducting DX magnets will be tested an the end of this year's run.

VIEW CONFERENCE PROJECTIONS FOR 2014: DUE ASAP

DID YOU KNOW??

Check out who received an employee Service Award this year! 2014 Collider-Accelerator Dept. employees who received a *Service Awards.* Last yeas Service Awards are listed *here*. 2012 Service Awards are listed *here*.

EVENTS/SEMINARS...

Check out the *BNL Calendar* for upcoming events & Seminars or the *Upcoming Conferences & Workshops* page for workshops and Conferences happening at BNL.

Congratulations Nick Franco ~ he has another grandson! ~ Nick's son Brian with his wife Sarah Franco had their second son, Nathan James Franco ~ 8 pounds 11oz and 201/2 inches..

Steve Bellavia captured pictures of a Pinwheel Galaxy & Comet ~ *See pictures*

Someone planted Daffodils at the RHIC tunnel next to ELENS control trailer - Thanks to P.K. Feng below is a picture ..

May 13 - (Bldg. 510 - LSR | 3:30) Physics Colloquium, "Materials in 2-dimension and beyond" Presented by Philip Kim, Columbia U.

May 14 - (Berkner Hall B | 12pm) Brookhaven Women in Science (BWIS) Event

May 15 - (Hamilton Seminar Room Bldg 555 | 9am) All Employee Event

May 16 - (Bldg 911B LCR | 3:30pm) C-AD Accelerator Physics Seminar "Optics Solutions for 100GeV Proton Operation with Electron Lens" Presented by Simon White, BNL/CERN

May 19-21 - (Berkner Hall AUD | 8am) Annual Users' Meeting "Joint NSLS/NSLS-11 & CFN Users' Meeting"

May 22 - (Bldg 911B - LCR | 2pm) C-AD Accelerator Physics Seminar "MuSR: Exsisting & Future Muon Beam Facilities" Presented by Susan Kilcoyne, U. of Huddersfield, UK

May 23 - (Bldg 911B - LCR | 3:30) C-AD Accelerator Physics Seminar "Towards an Alternative Nuclear Future" Presented by Robert Cywinski, U. of Huddersfield, UK

*May 26 - *MEMORIAL DAY - LAB HOLIDAY **

Do you have to give a talk?

Public Speaking Techniques:

Verbal & Non-verbal

Presented by:

Theodore Sampieri Ext: 4894

12:00 – 1:00 Fridays

CAD Building 911
Large Conference Room: 2nd Floor

IN OTHER NEWS...

Have Jellyfish found the fountain of youth? 'Immortal' Jellyfish is able to age in reverse ~ *Watch it .. A Japanese scientist thinks he might have discovered a fountain of youth in the ocean's microscopic, self-regenerating jellyfish.*

U.S. Reports First Case of MERS ~ A new virus found in the Middle East came over to the U.S. with a traveler from that region .. Read More..

WHAT'S GOING ON IN OUR NEIGHBORHOOD?

Interested in Cycling? No Cycling Events at this time

Interested in Running or Walking? Check out the lirunning March Calendar for the following events: Eagle 5k (Adelphi); Healing heart 5k (Pugliese Vineyards); 5k for Lupus (Central Islip); Stan Wong 5k for Cancer (E. Moriches) & more..

For the Kids: Marvel Universe LIVE! (August) @ The Nassau Coliseum.

Stony Brook Events:
The Red Skelton key! ~ May 3 ~ June 14 (11:30am~)Popular Musical and high tea luncheon

Salt Marsh Scientists: Jul 14~18 (10:00am~1:00pm) Ages 12~17 are invited to become experts of the salt marsh environment.

Salt Marsh Explorers ~ Jul 28 ~ Aug 1 (10:00am~1:00pm) Ages 5 ~8 are to Join us for a week long hands on program that combines outdoor investigations at an 88~acre wetland preserve, lab work at the Ernst Marine Conservation Center, crafts and tons of fun at this 5 day program.

Nassau Coliseum ~
Upcoming shows: Miley Cysrus, Sonu Nigam & American Idol Tour
May 31 ~ The Greater NY Pet Expo

DAY AT THE VINEYARDS...

Macari Vineyard ~ [MATTITUCK] May 29 ~ Brooklyn Uncorked; May 31 ~ Barrel Tasting

Duckwalk North ~ [SOUTHOLD] No Events Posted
Duckwalk South ~ [WATER MILL]

Castello di Borghese Vineyard & Winery ~ [CUTCHOGUE] ** Vineyard Tours & Wine Tastings Every Thursday & Sunday @1pm & FREE Jazz Every Saturday (2~4) with Marguerite Volonts**

Jamesport Vineyards ~ *Live Music from 1~4pm every Sat & Sun*

Martha Clara Vineyards - [RIVERHEAD] ~ **Live Music every weekend**

Palmer Vineyards - [RIVERHEAD] May 18 ~ Paint & Sip; **Memorial Day Weekend** May 24 Beatle Coverband 3:30~6:30; May 25 Cravin Band (Classic Rock hits for 60's & 70's) 2~6pm & May 26 "The Guitar Man" 1~5pm

Pindar Vineyards - [PECONIC] ~ *Live music Every Sat & Sun 1~5pm*

Baiting Hollow Farm Vineyard ~ [CALVERTON] *Music every Sat & Sun from (2~6)*
May 30 ~ The Second Annual Mane Event (A Benefit To Save The Horses) 70$ you must register*
Thursdays ~ Happy Hour!

NOTE FROM OUR ADMINISTRATION: S. LaMontagne

If you require a DOE vehicle in the performance of your day to day work, please CONTINUE READING. DOE's on-site office closely monitors our vehicle utilization and vehicles that do not meet the utilization criteria are at risk.

While DOE is insistent that our fleet meet utilization criteria, BNL's Staff Services Division has made progress in setting more realistic criteria by which our utilization is measured. The daily number of trips is no longer used as a measure of utilization. Utilization is measured in recorded miles over a 12 month period beginning on August 1st and ending on July 31st. In the current year, minimum mileage requirements were based on usage reported in the prior 12 month period.

As of the end of January, six months into the annual reporting period, 19 of the 58 vehicles assigned to C-AD do not meet the established mileage criteria. This is the proverbial "shot across the bow" warning us that ~30% of the vehicles currently assigned to the Department are at risk.

While further reductions in the number of vehicles assigned to C-AD would have a significant impact on the efficiency of the staff, ONLY YOU can ensure that the size of the fleet size is preserved.

WHAT CAN YOU DO?

1. Submit monthly vehicle usage logs to Steve Bubka.

Of the 20 vehicles that do not meet the criteria mark at the half way point, 10 are missing 1 or more monthly log sheets. Two of those have not submitted even 1 monthly log in the current the year. Please note that monthly log sheets should be submitted to Steve. DO NOT SUBMIT your log sheet directly to Staff Services. Steve will be tracking the log sheets and will remind you when necessary. .

2. Increase usage in vehicles which do not currently meet the minimum mileage requirements.

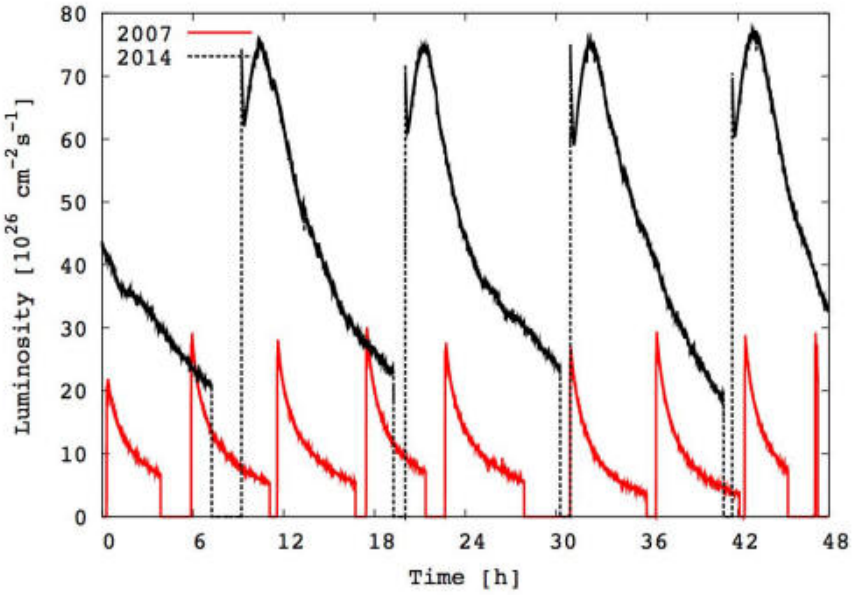
Annual mileage goals by vehicle are shown in column J of the attached spreadsheet. Year to date mileage through January is shown in column L and the variance from the goal for the first half of the year is shown in column M. Those vehicles with a negative variance are not meeting the current year mileage criteria.

Note, however, that, in total, our vehicles logs reflect usage of 78,596 miles against an annual requirement of 144,000 miles. Thus, in theory, we could meet mileage requirements by swapping vehicles amongst ourselves. While inefficient, reassignment of vehicles within the Department is clearly preferable to the loss of additional vehicles.

IN SUMMARY, the preservation of the fleet is in your hands. If you submit monthly logs as required and work with personnel to rotate vehicle assignments we can maintain the size of the fleet.

NOTE FROM OUR ACCELERATOR DIVISION: Wolfram Fischer

The RHIC run continues with record peak and average luminosities. The pictures shows how far we have come since 2007 – it compares the luminosity over 48 hours in that year with the luminosity now. First, one can see the more than two-fold increase in the initial luminosity, the result of a 50% increase in the gold bunch intensity. Many improvements were made for this, ranging from EBIS to the low-level rf upgrade in the Booster and AGS, to scrubbing in RHIC. Second, the long stores with good luminosity lifetime are only possible because of the three-dimensional stochastic cooling – the very early part of the luminosity in the 2014 stores gives an idea as of how fast the luminosity would decay without cooling. With cooling almost all ions are now burned off in the collisions versus only 50% in 2007. Overall, this is a fantastic success.



The catalog of all Technical Notes is http://www.rhichome.bnl.gov/AGS/InternalReports.html, and it is linked from both the Department and Accelerator Division home pages.

NOTE FROM OUR EXPERIMENTAL SUPPORT & FACILITIES DIVISION: Phil Pile

The high energy gold-gold run at 100 GeV per beam continues at record intensities thanks to good EBIS and stochastic cooling performance. The experiments are routinely running with 10 hour long stores. PHENIX has reached 85% of their integrated luminosity goal of 1.5 nb-1 with a narrow +/- 10 cm vertex consistent with their silicon vertex detector requirement. STAR is running with different trigger configurations. The high luminosity exceeded the projections while low luminosity for the HFT program (PXL and IST detectors) lagged slightly behind. This was remediated starting last week with higher priority given to the HFT program. The beams at the STAR IR were moved vertically after three hours in store to reduce and maintain the ZDC rate at 50 kHz and provide longer running time for the HFT per store. The tally of collected events is now on track.

Another good month for BLIP and the MIRP production team with over 18 Ci of Sr-82 was produced. The new controls for implemented radiochemical processing are working well. The production processing staff (all) are routinely making yields over >90%. After a long review process, the RSC approved short Thorium foil irradiations at 180, 160, and 140 MeV designed to measure the excitation function of Ac-225 and other isotopes, especially short lived ones. A target holder mechanical failure (targets not affected) at BLIP forced rescheduling of the second Thorium foil exposure. The BLIP team with the HP team worked quickly the next day to resolve the operations issue and RbCl targets were back in beam that next day. WELL DONE!! The 180 MeV exposure was completed on April 21 and the 160 MeV on May 6. The irradiated samples were shipped to ORNL for processing. In addition, a workshop was held with LANL staff to plan the next 5 years of the Ac-225 collaboration with LANL and ORNL. The next RbCl target irradiation will be for 3 weeks and during that time we expect to place Nick Simos' LARP targets in beam for 8 days. A beam optimization study at 66 MeV using a SrCl2 target to produce Y-86 is planned for the 21st of May.

NSRL continues its run for radiobiology experiments. The program has utilized a variety of beams: Proton, Carbon, Oxygen, Silicon, Titanium, Iron, Krypton, Gold, and Tantalum at various energies ranging from 100 to 1000 MeV/u. With the exception of Protons and Krypton, the rest of the ion beams were produced from the new Laser Ion source.

An sPHENIX meeting was held by folks from C-AD, Magnet Division, and PHENIX as a follow up to the SLAC visit by several mechanical, cryo, and electrical engineers to plan the next steps needed to ship of the BaBar magnet to BNL later this year.

NOTE FROM ACCELERATOR R&D DIVISION: Ilan Ben-Zvi

Please Check back....

NOTE FROM OPERATIONS: Paul Sampson

High energy Au-Au Physics in RHIC continues throughout the month. All major systems continue to run reliably, with continuous improvement in peak and integrated luminosity, and store turnaround time. With routine good quality bean from the injectors and reliable Stochastic Cooling, the stores length remains quite long (~10hours/store). With these long stores, PP commissioning, maintenance and repair in the AGS has been going particularly well.

Installation and commissioning of major new systems in RHIC systems also continues. Conditioning of the 56MHz SRF without beam was completed last month. Very high voltage conditioning (with beam) has begun and will continue throughout May. During access periods and Maintenance Days, repair and installation of 56MHz systems, CeC components, bunch damper and other items continues with good progress.

Polarized proton setup is ongoing and making good progress behind stores. Mechanical installation of vertical e-IPM was completed last month. Controls setup has begun for this system and commissioning will commence shortly. The AGS now has both Horizontal and Vertical eIPMs.

The LINAC continues to run very well, delivering record high current and integrated beam to BLIP. Maintenance for BLIP and LINAC continues to run independently from the rest of CAD, synchronized to scheduled BLIP target changes or failure. LINAC is also delivering Polarized Protons for setup in the Booster and AGS.

In the pre-injectors, improvements to EBIS and progress with the laser ion source continue. NSRL Run 14A is under way and running well.

The CAD CATV system display includes daily updates including Testing, power disruptions and outages as well as important dates. This information can also be seen on the web at RHIC Broadcast.

To view a list of the approved work for shutdown or maintenance, go the Job Request System and select the appropriate date. This link is behind the firewall and requires privileges to view.

For schedule updates see: This Week, which can be viewed by all.

ARRIVALS: Welcome!

DEPARTURES: Farewell, you will surely be missed..

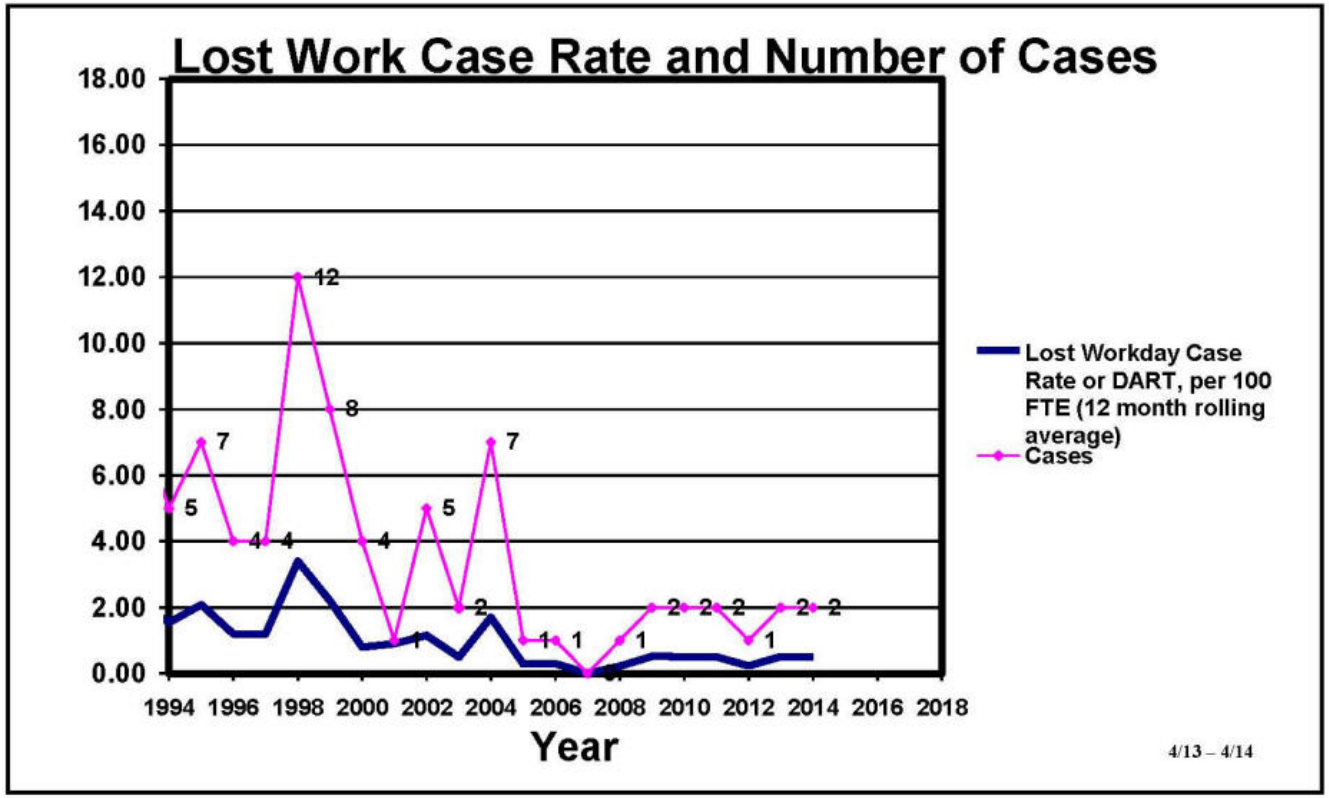
Olivier Tresca- (ATF) - Last Day is May 22, 2014
Heather Savage- (Collider Electrical Supplies) - Last Day is May 9, 2014

Charles Sottile- (RF) - Last Day was April 17, 2014

Guest Notices:

Y. Bao- CAD Guest Last day was April 25, 2014
X. Shen - Last day was April 30, 2014
John Rathke (X6808), Admin. Other, expiration date June 8, 2014
Frank Zimmermann (U6075), Admin Other 473, expiration date June 25, 2014

SAFETY STATS: Peter Cirnigliaro



C-AD Occupational Injury Statistics

	For Year 2013	For Year* 2014
First Aid Cases	5	3
Recordable Cases	3	1
Lost Work Cases	2	0

* Calendar Year through 4/14

PHOTOS BY: STEVE BELLAVIA

At Orient Point, near a boat ramp on Narrow River Rd., Steve trying out a new “toy” – a 6-inch f/4 imaging Newtonian he just got. With this "toy" he captured this Pinwheel galaxy, M101 (NGC 5457). It is a face-on spiral galaxy, in line with Ursa Major, lying over 25 million light years from Earth.

On Tuesday night 5/6, Steve was able to image comet C/2012 K1 (PanSTARRS)

"I could just barely make it out in my 15 x 70 binoculars, but the imaging really brought it out, including a tail."

"I can't believe how far it moved, relative to the background stars, over the 90 minutes of imaging. I had to use a "star'freeze" stacking option in Deep SKy stacker, otherwise either the comet or the stars would just be a blur / trails. If I have time, I would like to make a little video of its motion. But for now, here is the still image."